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MUNICIPALLY OWNED ENTERPRISES AND HEIGHTENED CORRUPTION RISKS

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ABSTRACT

Some scholars argue that there are unattractive, unintended side-effects of the 'quasi-privatizations' that have been associated with New Public Management (NPM). One aspect of this question is the international trend towards an increased use of municipally owned enterprises (MOEs) in the deliverance of public services. Since it has been hypothesized that NPM may, for instance, deteriorate integrity systems of public organizations, we analyse if the increased use of MOEs is associated with heightened corruptions risks. To test this proposition, we focus on a setting that has witnessed a burgeoning growth of MOEs the past two decades: Sweden. A local government corruption index is employed, developed for each Swedish municipality, and we ask if the drive towards creating, owning and operating MOEs correlates with perceived presence of corruption. Our findings indicate that such an association is present and that the impact of MOEs indeed is more significant than 'usual suspect'-variables highlighted as important in the corruption literature. Our findings confirm theories on the hazards and unintended consequences of 'quasi-privatization' and corroborate widespread political worries expressed by, for instance, the World Bank, OECD and UNDP on the risks of not keeping politicians at arm's length from the operations of publicly owned enterprises.

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Introduction

The literature on corruption has virtually exploded over the past 20 years (e.g. Heywood 2018; Rothstein & Varraich 2017). In general, however, its scope has been somewhat narrow. The bulk of the literature has traditionally been interested in a) developing or transitional economies, and b) predominantly focus on 'systemic' and 'epidemic' corruption that c) permeate institutions at the state level. In addition to this, as a rule, the measurements employed have been confined to restricted conceptions of corruption – giving and taking of bribes.

Gradually, though, an increasing number of studies have begun to explore corruption in mature democracies. Often, these analyses have come to highlight the subnational levels (e.g. Broms et al. 2019; Grimmelikhuijsen & Snijders 2016; Kristinsson 2015; Charron & Lapuente 2013; Amore & Bennedsen 2013; Garcia Quesada et al. 2014; Andersson 2008; Erlingsson et al. 2008). In addition, there seems to be a growing acknowledgement that corruption in mature democracies may generally take more of the ambiguous 'grey' (or 'sophisticated') forms and does not predominantly evolve around giving and taking of bribes (Erlingsson & Kristinsson 2020; Masters & Graycar 2017; Bergh et al. 2016; Papakostas 2012; Girling 1997).[1]

As the corruption literature has expanded in this direction, a partly overlapping literature has asked whether the introduction of market-inspired reforms – often captured under the umbrella concept of New Public Management (NPM) – may have had unintended and unattractive side-effects, such as harming public sector's integrity systems (e.g. Anechiarico & Andersson 2018; Andersson & Erlingsson 2012; Andersson 2002). Others have argued that NPM-reforms have simultaneously affected public ethics negatively *and* deteriorated conditions for public sector accountability (e.g. Bergh et al. 2019; Papadoupolos 2007; Aars & Fimreite 2005; Skålén 2004; Kersbergen & Waarden 2004; Box et al. 2001; Frederickson 1999; Hondeghem 1998; Lundquist 1998).

As thought-provoking as this literature is, the literature dealing with the (alleged) unattractive side-effects of NPM is often theoretical, normative, case-study oriented and/or even outright anecdotal (cf. von Maravic & Reichard 2003). A challenging question, then, from a methodological point of view, is how scholars should go about to systematically study the hypothesized undesirable side-

[1] Examples of 'grey' or 'sophisticated' corruption can range from favoured promotions in public administration as payment for loyalty or looking the other way, hiring of friends and relatives to public positions, favoured treatments when civil servants give permits or favourable inspections, personal use of public property, but could also be serious (but hard to detect) forms such as fraud and embezzlement. For more on the concept of 'grey' corruption, see Heidenheimer (1970).

effects of 'quasi-privatization' (or 'middle ground') which arguably is one of NPM's principal components.

We propose a novel way to approach this question. We argue that taking a closer look at publicly owned enterprises in the form of municipally owned enterprises (MOEs) might be a way forward to examine the expectations expressed in this literature. MOEs should be viewed as an integral part of NPM, precisely since they are near perfect illustrations of the trend towards 'quasi-privatization', or 'middle ground', in public sector reform (Torsteinsen & Bjørnå 2012; Christensen & Lægreid 2003; Wettenhall 2001; Thynne 1994). The fact that local governments *increasingly* have chosen to conduct their deliveries of public services through MOEs, has driven scholars to dub this development as a burgeoning 'corporatization' of local government services (e.g. Andrews et al. 2019; Torsteinsen 2019; Ferry et al. 2018; Tavares & Camôes 2010; Grossi and Reichard 2008), and go as far as to speak of an 'enterprise fever' (Aars & Ringkjøb 2011). Regrettably, as Voorn et al. (2017) have pointed out, this development has largely been overlooked in the literature.

The fact that we observe more and more MOEs being created is perhaps unsurprising. MOEs have been described as a rational instrument to meet contemporary challenges at the local government level caused by austerity (Ferry et al. 2017), and have indeed proven to be somewhat more effective than traditional public management in delivering services (Voorn et al. 2017). However, although MOEs may have these upsides, a swift and large-scale introduction of MOEs in a country's entire local government sector might come with a price-tag. Oftentimes, scholars associate publicly owned enterprises with loss of political control, lessened transparency, worsened conditions for accountability, and ultimately, increased risks for corruption (Bergh et al. 2019; Torsteinsen & Bjørnå 2012; Luke 2010; André 2010; Thomasson 2009). Curiously from this perspective – although primarily addressing MOEs in developing nations – the United Nations Development Programme (UNDP) has gone so far as to pinpoint MOEs as particularly susceptible to corruption.[2]

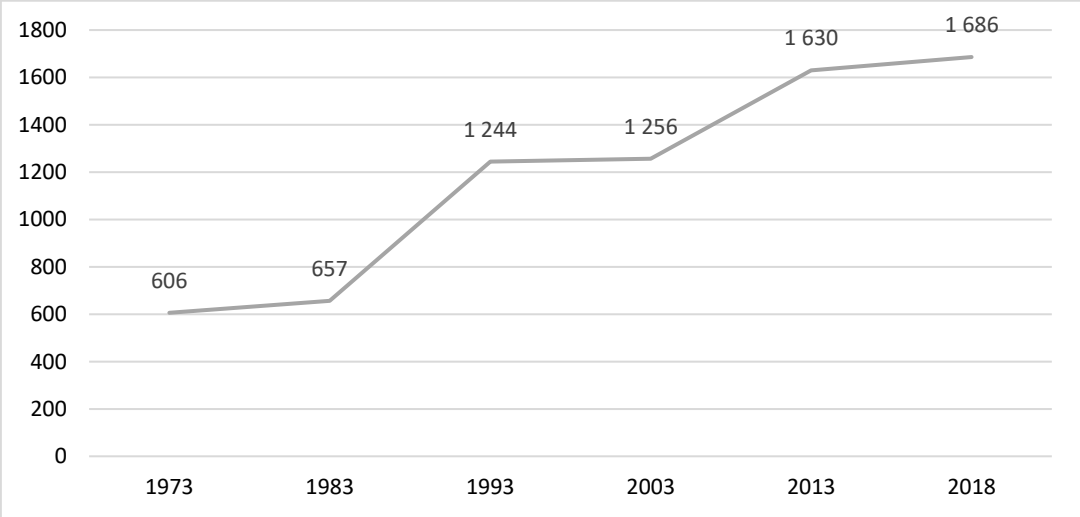
Considering this, it is necessary to stress that MOEs in no way are a peripheral phenomenon. When Dexia Crediop (2004) gathered information about MOEs in Europe, they found that they exist in all EU countries except Luxembourg. Sweden is a particularly interesting case to take a closer look at, because in Dexia Crediops study, it was the EU country with the second most MOEs per capita.

[2] https://corruptionfreecities.org/municipally-owned-enterprises/

Since that study was conducted, the numbers of Swedish MOEs has continued to grow rapidly, from being 1,256 in 2003 to being 1,686 in 2018.

This rapid development means that MOEs today constitute a significant share of the Swedish local government sector. In 2018, 55,000 individuals were employed by MOEs, which translates to roughly 6 per cent of all employed by local governments. Their total turnover amounted to approximately 210 billion SEK (4,3% of BNP) and some estimations hold that their net worth amounts to circa 2,000 billion SEK. In Sweden, MOEs are typically responsible for areas producing different kinds of public goods. Over half of them operate with (1) management of social housing, (2) electricity and heating, and (3) water and sewer. However, nowadays, almost 40 per cent of them are active within miscellaneous areas that have been increasingly hard to categorize. Taking this into account, it is not surprising that the Swedish Competition Authority has recurrently criticized MOEs for competing with private firms on already established markets (Konkurrensverket 2020; 2014).

FIGURE 1, (NUMBER OF MOEs IN SWEDEN, 1973–2018)



Against this backdrop, it is worrying from an accountability perspective that The Swedish National Council for Crime Prevention (BRÅ 2012) found that the number of reported corruption cases involving MOEs has been on the rise. We therefore maintain that Sweden is a well-suited case to take closer look in order to fulfil the overarching purpose of the paper: to answer if the 'quasi-privatization' of the large-scale introduction of MOEs could be associated with higher corruption risks in local government.

The paper proceeds as follows. In the next section, we initially demonstrate that there are non-trivial variations in perceived corruption levels to be explained between Swedish municipalities, and go on to introduce the most common explanations to these variations. We end this section by theoretically constructing an argument for why MOEs should be expected to be associated with increased susceptibility to corruption. Thereafter, our methodological considerations are introduced by a presentation of our data and the methods employed, before proceeding with analyses and main findings. The paper concludes with a summary of our results and a discussion about future research avenues, as well as about the policy implications of our findings.

Corruption in Social Democratic welfare states: Where to look?

If we want to know whether MOEs indeed increase local government's susceptibility to corruption, it must first be established that there are any meaningful corruption variations to be explained. After demonstrating that this is the case, we survey the existing literature for potential explanations to do precisely this.

From being virtually non-existent before Anderssons (1999, 2002) pioneering studies, there now exists a handful of corruption studies on corruption in mature, Social Democratic welfare states. Curiously for our purposes, and the case we focus on, there now exists Swedish data on corruption levels with the Swedish municipalities as the unit of analysis. Dahlström and Sundell (2013) constructed a unique dataset in which they demonstrate that perceived levels of corruption vary in a non-trivial way between the Swedish municipalities. With other data sources, noteworthy variations in perceived corruption levels between municipalities are also reported in Bergh et al. (2017) as well as Erlingsson & Wallman Lundåsen (2019). Since Sweden is a relatively egalitarian homogenous country, and regularly ranked high when it comes to anti-corruption, rule of law and transparency, the observed within-country variation is puzzling. It demands explanation, and in this paper, we are interested in what role MOEs may play to make the corruption differences between Swedish municipalities intelligible.

It is worth noting that, as for instance Bergh et al. (2016) as well as Andersson and Erlingsson (2012) argue, that when it comes to corruption in highly developed welfare states, it is wise to pay special attention to the local government. In such settings, for at least two reasons, local governments are expected to be particularly vulnerable to corruption. First, the lion's share of the welfare-services is decentralised to and implemented by local governments (Sellers & Lidström 2007). Second, many of

the responsibilities carried out at the local level have been identified as 'danger-zones' for corruption. This primarily concerns public procurement, zoning, licensing, granting of permits, supervising and inspecting activities, and in addition deciding how certain public resources are to be distributed (e.g. grants to support the activities of clubs, organisations and groups) – see similar arguments in, for instance, Broms et al. (2019), Andersson & Erlingsson (2012); Huberts et al. (2008) and Fjeldstad (2004).

The premises for the present study, then, is that local governments are subjected to corruption risks, and that corruption levels vary between municipalities. In discussions about what could make differences in corruption levels between subnational units intelligible, several hypotheses have been proposed. For instance, Erlingsson & Wallman Lundåsen (2019) take their cue from the 'quality of government'-literature (e.g. Rothstein & Teorell 2008) and discuss whether the varying levels of impartiality of local institutions are associated with perceived corruption. Bergh et al. (2017) discuss whether the size of municipalities may explain variations, where larger municipalities are expected to be more corrupt than small (cf. Rose 2011). Inspired by Goel & Nelson (2011), Bergh et al. (2017) maintain that the educational levels of citizens could possibly affect corruption – the hypothesis being that the less educated citizens are, the more corruption. The mechanism at work is assumed to be that educated citizens are better 'whistle-blowers' or 'watchdogs' than poorly educated ones. In addition, and as a complement to education, the presence of local media is assumed to matter – if local newspaper editorials are present locally, it is expected to hamper corruption (e.g. Färdigh 2013).

An additional hypothesis that has flourished in the literature, is that if a politician, political party or a coalition of parties hold the same position of power for a long period of time, this may over time lead actors to develop corrupt patterns; and conversely, that shifts in political power may be an important mechanism to prevent corruption (Greene 2007; Lapalombala 1994; Pembel 1990; for a discussion in the Swedish context see e.g. Andersson 2002). Furthermore, it is also believed that the share of women in government has the potential of decreasing corruption levels (Bauhr et al. 2018; Dollar et al. 2001).

In this paper, we want to challenge these notions by introducing an additional independent variable that, for various empirical and theoretical reasons, will be of main interest for us – MOEs. Why should MOEs be expected to be associated with corruption? The corruption risks associated with MOEs in the Swedish context is intimately related to the fact that MOEs are 'hybrid organizations,' governed simultaneously by public (*Kommunallagen*) and private law (*Aktiebolagslagen*). Hence, these

enterprises are embedded in a private sector environment with an a somewhat fuzzy institutional logic as well as opportunity structures that are significantly different compared to both traditional public administration as well as 'pure' private businesses (cf. Thomasson 2009). MOEs are typically governed in a network-oriented, 'business-like' manner, and – at least, this what was intended in theory – at 'arm's length' distance from the political executives of local government.

However, in Sweden and in practice, local councillors have come to occupy almost all seats on MOE boards (SOU 2015:24); the stated reason being to ensure the local governments interest as an owner. However, this violates the NPM vision of governing by a 'arm's length principle', and regrettably – if we are to believe the arguments developed by both the World Bank (2014) and the OECD (2018) – having politicians represented in the boards increases corruption risks. As argued by e.g. the UNDP[3], allowing councillors to almost exclusively occupy the MOE boards not only increases the potential for political interference, it short-circuits the accountability chain and ultimately increases the susceptibility of MOE to corruption.

In addition, it has also been argued that conditions for openness and transparency are worsened in MOEs (SOU 2011:43; Erlingsson et al. 2018) and that it can be difficult to audit MOEs (SKL 2013; Andersson 2012). Additionally, empirical studies have showed that the awareness of corruption problems is particularly low among CEOs in MOEs (Statskontoret 2012). Furthermore, it has been shown that the governance of MOEs is often associated with a high concentration of power which may jeopardize the horizontal check and balances that are intended for such organisations (Bergh et al. 2019). Taken together, this runs the risk of lowering the probability for corruption scandals to be exposed in MOEs. Considering this, and since MOEs have become more frequently used to provide public services in what has been deemed to be 'high-risk sectors' (e.g. oriented towards local infrastructure, utility, energy, and transportation), organizations such as the UNDP have maintained that we must keep a close eye on MOE, for integrity reasons:

Compared with private companies, MOEs can face particularly heightened corruption risk owing, among others, to underlying issues in their ownership, regulatory and corporate governance arrangements, as well as shortcomings in the quality and credibility of corporate disclosure.[4]

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[3] See https://corruptionfreecities.org/municipally-owned-enterprises/

[4] See https://corruptionfreecities.org/municipally-owned-enterprises/

Besides from the theoretical risks associated with MOEs described above – risks that have also been suggested in the general literature on publicly owned enterprises (e.g. Torsteinsen & Bjørnå 2012; André 2010; Thynne 1994) – there are empirical indications which supports the assertation that MOEs might be related to corruption. Statistics from Swedish National Council for Crime Prevention shows that the number of reported cases of corruption crimes related to MOEs rose during the period 2007-2010 (BRÅ 2012; see also Amnå et al. 2013; Erlingsson et al. 2008). Against this backdrop, it is then for both theoretical and empirical reasons relevant to formulate and test the theoretical propositions and observed anecdotal evidence on large-n data. Hence, below we will test the hypothesis:

H1: the number of MOEs in a municipality increases corruption levels.

Data and methods

Our overarching aim is to gauge whether the number of MOEs in a municipality is associated with more perceived corruption. This hypothesis – that the propensity to create, own and operate MOEs is correlated with corruption – will be tested by cross-sectional regression models, including data from all 290 Swedish municipalities.

To reduce the risk for omitted variable bias or unobserved heterogeneity, we also include a range of other variables that have been singled out as important in the literature and assumed to have explanatory potential. As suggested in the literature review above, the chosen control variables include municipality size, educational levels, media coverage, how long a majority has been in power, as well as female representation in local councils. Variable summary and definitions are found in Table 1. We discuss the variables in more detail in the subsequent sections.

Presentation of variables

TABLE 1, (VARIABLE DEFINITIONS)

No. MOEs	Number of enterprises for which the municipality owned at least 50 per cent of the shares in 2013.
Corruption index	A municipal-level corruption index based on data from a survey sent to local councillors. Corruption is operationalised as offers or acceptance of bribes.
Local news editorials	A dummy variable for municipalities that have at least on local newspaper with an editorial stationed in the municipality.
Share female rep.	Share of women in the municipal council that were elected in 2010.
(ln) Pop. Size	Log-transformed values of the number of inhabitants in the municipalities in 2013.
Educational level	Share of municipal population with at least three years university education in 2013
Stronghold over local power	Dummy variable for municipalities where one dominating party have held the position as mayor during the period 1973–2013.

Dependent variable

Methodologically approaching the topic of corruption is no easy task, since it involves shady and/or illegal actions that involved parties wish to keep hidden. As Jain (2001: 76) points out, we are trying to study a phenomenon that by its very nature is 'difficult to measure since it is carried out … clandestinely and away from the public eye and records'. In this paper, we therefore take one of the more established – albeit indirect – approaches for corruption measurement. Our dependent variable is an attempt to mix *experiences* and *perceptions* regarding the occurrence of bribes in public procurement and case handling. The index was created by Dahlström and Sundell (2013) and is based on a web survey that was sent to 13,361 politicians that were represented in the local council in all of Sweden's 290 municipalities in 2012 and 2013. A wide range of questions were included in the survey of which questions regarding bribes constituted a part. The overall response rate was 78 per cent. Besides, the

response rate was 50 per cent or more in 288 of the 290 municipalities. The number of respondents from each municipality varied between 13 and 68. The average number of respondents was 33.

All questions related to corruption were asked in relation to the personal experience and local personal knowledge of the respondents without targeting them regarding their own involvement in corruption. Respondents were asked questions on whether specific types of corrupt actions had occurred in their municipality during the period 2010–2014. To create indices from the pool of potential survey questions related to corruption, Dahlström & Sundell (2013) used Principal Component Factor Analysis (PCA) to identify questions that have a high explanatory value for the same component. An additive corruption index was created based on two questions on the occurrence of bribes which were found to have high weights for the same component. These questions were whether bribes had been offered during a procurement process as well as whether civil servants had received side-payments to perform duties. The corruption index is thus corresponding to the traditional definition of corruption, i.e. 'abuse of public office for private gain' (e.g. Rose-Ackerman 1978). The questions had a scale on the range from 1 to 7, where 7 corresponds to the highest frequency of corruption. The additive index was created and measured as the mean values for the two questions for all respondents in individual municipalities.[5] Dahlström and Sundell (2013) have performed external validation of their index, and it supported a correlation between the corruption index and three other corruption indicators: newspaper articles about bribery, bribery charges and another corruption index that also was based on a web survey.

Independent variables

No. of MOEs:

Data on our main independent variable – MOEs – was provided by Statistics Sweden and covers all 290 municipalities. This dataset only contained MOEs that were owned to 50 per cent or more by the municipalities. In 2006, nine of ten MOEs were majority-owned by the municipality, according to Hansson (2006). This indicates that the lion's share of all MOEs are included in our dataset.

[5] More information about the survey and the index can be found in Dahlström and Sundell (2013) and Karlsson and Gilljam (2014).

(ln) Population size:

According to previous studies, population size is expected to positively correlate with corruption. The rationality of this assumption is that a corrupt action will affect each citizen less when committed in larger populations, compared to smaller populations. Consequently, this lowers the barrier of committing corrupt actions (Rose 2011). Furthermore, it is also expected to be more difficult to audit the relatively large number of politicians in bigger municipalities, and hence it is easier to avoid detection. In addition, it is critical to control for whether larger municipalities are associated with more MOEs to avoid spurious results. For this study, data of the municipalities' population size was provided by Statistics Sweden. This data was from the third quarter of 2013 and covered all 290 municipalities. As explained in detail in the descriptive section, we use log-transformed values of population size to account for skewness in the distribution.

Educational level:

Some studies have shown that higher educational levels tend to reduce corruption. An important mechanism assumed to be at work, is that a well-educated population is more prone to discover corrupt actions committed in public organizations – and then hold them accountable (Goel & Nelson 2011). In this study, educational level is operationalised as the share of municipal population (over the age of 16) with at least three years university education. Once again, the data was provided by Statistics Sweden and covers all 290 municipalities.

Media coverage (local editorials):

The presence of media is typically expected to prevent corruption (Färdigh 2013). In line with this expectation, studies have shown that local corruption scandals in Sweden are often exposed by local investigative journalists (BRÅ 2013). We operationalise local media coverage as a dummy for municipalities that at least have 1 local editorial and the variable covers all 290 municipalities. A dummy is chosen for number of editorials since we make the assumption that the association is most likely not linear and that the number of editorials would rather reflect municipality size rather than the intensity of scrutinization. The data was collected and provided by Bergh et al. (2017).

Stronghold over local power:

Some researchers have discussed that stronghold over local power might correlate with higher corruption. The mechanisms at work are assumed to be numerous. For instance, the parties in power

can be expected to treat the municipality and its resources as something that they 'own', affecting everything from public position recruitment to public procurement, and also, it is expected to reduce the incentives for the political opposition to audit the local government if they realistically cannot hope to hold the political power in a foreseeable future (e.g. Andersson 2002). Stronghold of local power is in the study operationalised as a dummy variable for municipalities where one party has withheld the position as mayor for 40 years (1973-2013). The data is based on an article from *Dagens Samhälle* (30/ 10/ 2013)[6] on 69 municipalities that in 2013 had not experienced a political shift of power for 40 years.

Share of female representatives in council:

The share of women in government is believed to decrease corruption levels (Bauhr et al. 2018; Dollar et al. 2001). The data on share of female representation in the municipal council is from Statistics Sweden and covers all 290 municipalities.

Descriptive statistics

Table 2 shows basic descriptive statistics over the variables that are included in the analyses. Among other things, it demonstrates that the perceived corruption levels vary between 1.04 –3.545, with the average value of 1.661 (on a scale that ranges between 1-7). The table also shows that the variation in MOE-ownership is quite significant: from 0 MOEs to 71. At the point of measurement, a municipality owned and operated on average 5.73 MOEs. The distribution of population size is highly skewed including many small and medium sized municipalities in the range of 10,000 to 50,000 inhabitants and a few larger cities with several hundred thousand inhabitants. We will use log-transformed values of population size in our estimations. This give us a variable that is symmetric and closer to normal distribution.

[6] https://www.dagenssamhalle.se/nyhet/haer-har-makten-cementerats-6696

TABLE 2, (DESCRIPTIVE INFORMATION ON THE RELEVANT VARIABLES)

	N	Min.	Max.	Average	St. dev.	Skewness	Kurtosis
Corruption index	290	1.05	3.55	1.66	0.38	1.55	7.64
No. MOEs	290	0	71	5.73	7.12	4.80	36.46
Share female rep. in council	290	30	53	42.23	4.33	-0.19	2.95
Pop. Size	290	2,436	897,700	33,258	68,230	8.81	100.77
Share with university educ.	290	0.06	0.44	0.14	0.06	1.96	7.86
Local editorial	290	0	1	0.56	0.50	-	-
Stronghold over local power	290	0	1	0.24	0.43	-	-
N	290						

Results

Our analysis proceeds in two steps. First, we will only look at the association between MOEs and perceived corruption. Second, we will attempt to wash any spurious effects/associations away by estimating multivariable regressions with competing explanatory variables.

Figure 2 shows scatter plots between the number of MOEs and the corruption index. Figure 2a includes all municipalities. First, it is worth noting that there is a non-trivial variation in corruption levels that cannot be explained by the number of MOEs: most municipalities have between 0-10 MOEs, and there is variation in perceived corruption between these municipalities. No trend is indicated when only these municipalities are studied in isolation.

FIGURE 2A, (MOEs AND CORRUPTION, ALL OBSERVATIONS)

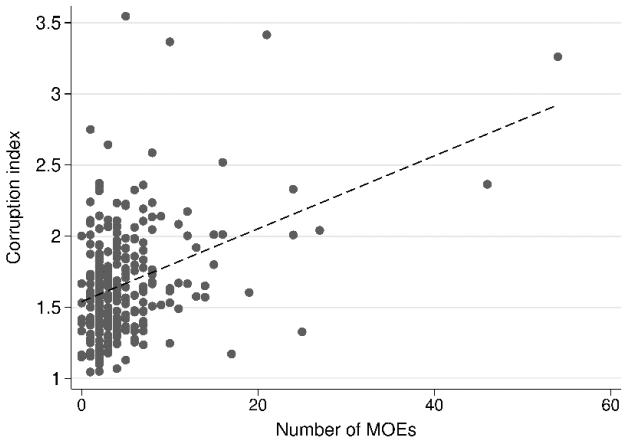


FIGURE 2B, (MOEs AND CORRUPTION, WITHOUT CORR. OUTLIERS)

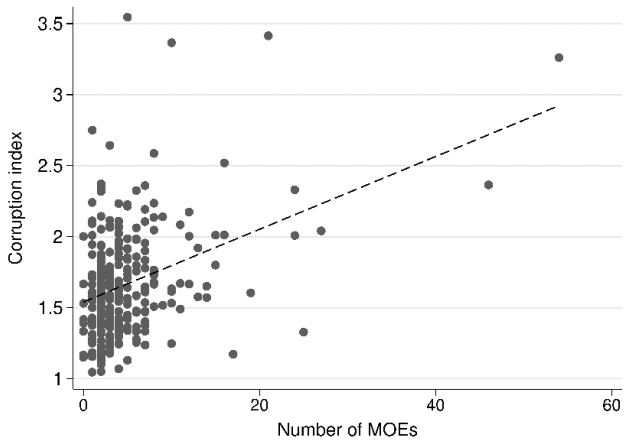
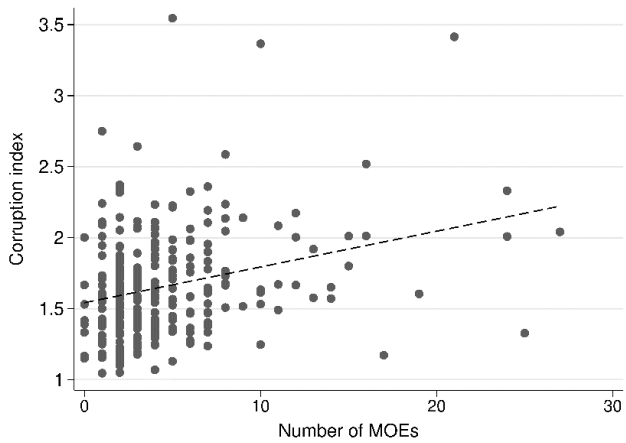


FIGURE 2C, (MOEs AND CORRUPTION, WITHOUT MOE OUTLIERS)



However, there is a slight upward trend in the entire data set. From the scatterplot, it is evident that municipalities with more than ten MOEs are generally associated with more perceived corruption. Nevertheless, there are few municipalities with 20 or more MOEs. This could make the regression line sensitive to outliers. As a robustness check, the four most extreme outliers regarding corruption are excluded from Figure 2b. The slope is noticeably flatter. Nonetheless, a correlation is nonetheless still indicated: the number of MOEs is still a reasonably good predictor of more perceived corruption.

Finally, the most extreme outliers regarding ownership of enterprises – the cities of Stockholm and Gothenburg – are excluded from the scatterplot in Figure 2c. The slope of the third regression line is similar to the slope in the first plot since both Stockholm and Gothenburg fitted well into the overall trend. Overall, it can be concluded that our scatterplots indicate a small but noticeable correlation between the number of MOEs and the index used to gauge corruption. We will explore this relationship further in regression models that include other relevant variables.

Table 3 shows regressions over the association between the number of MOEs and the levels of corruption. In the first model, we demonstrate the correlation between the number of MOEs and our corruption measure in all 290 municipalities. In line with the initial assumption, there is indeed a significant association between MOEs and levels corruption: the more MOEs a municipality operates, the more perceived corruption. According to this correlation, one more MOE is predicted to increase the corruption level with 0.021 corruption index units. Admittedly it is small, but nonetheless it is a noticeable increase. The first model also tells us that MOEs seem to be able to account for approximately 15 per cent of the variation in perceived corruption. Again, not too impressive, but nevertheless, MOEs do seem to pick up something of relevance.

In Model 2, we have removed four outliers – the four municipalities that have extreme values, i.e. high corruption levels, and hence run the risk of skewing the overall impression. When these are removed from the analysis, the effect is still there, although somewhat weaker: one additional MOE is predicted to increase corruption levels with 0.015 Corruption index units. In addition, the coefficient of determination drops drastically from 0.147 to 0.080 between Model 1 and Model 2. This change is mainly caused by the exclusion of Gothenburg which is an extreme outlier both regarding the number of MOEs and the occurrences of bribes. Despite these extreme values, the corruption index of Gothenburg is close to the regression line thus increases the explained variance of the model.

In Model 3, we have removed extreme values regarding our main independent variable– i.e. Gothenburg that operates 71 enterprises and Stockholm that operates 57. As with Model 1 and 2, we still

end up with a statistically significant association between the number of MOEs and their levels of corruption. We can therefore, somewhat confidently, conclude that certain outliers do not drive the connection between MOEs and corruption. The existence of even some few extra MOEs is associated with higher corruption levels. This, in itself, is an interesting observation and – if nothing else – a thought-provoking descriptive contribution to the literature on MOEs, accountability and corruption-risks in the wake of NPM-reforms.

TABLE 3, (ASSOCIATION BETWEEN LEVEL OF CORRUPTION (DEP) AND NUMBER OF MOEs (IND)

	Model 1 *Bivariate model* *all observations*	**Model 2** *Bivariate model* *without corr.-outliers*	**Model 3** *Bivariate model* *without MOE-outliers*
No. MOEs	0.021*** (0.003)	0.015*** (0.003)	0.021*** (0.003)
Intercept	1.543*** (0.027)	1.553*** (0.025)	1.542*** (0.030)
R^2 (adjusted)	0.147	0.078	0.084
N	290	286	288

*Unstandardized coefficients; standard deviations within parentheses. Significance: *p< 0.10 **p<0.05 ***p<0.01.*

Let us now introduce more variables and challenge our assumption with competing explanations, to see if the associations observed above still hold. In Table 4, all additional variables pinpointed to be of interest are present. According to the theoretical expectations presented earlier, number of MOEs, population size and whether or not the same party has been in power for a prolonged period, is assumed to be positively related to the corruption levels of municipalities, i.e. the higher values on these independent variables, the higher the corruption levels. Conversely, the higher the levels of education, the more newspaper editorials are present, and the more women there are in council, the lower corruption levels we expect to observe.

First, then, in Model 4, we limit ourselves to only look at MOEs and log of population size, and their relation to corruption levels. This is so, because we want to assure ourselves and check the possibility whether higher population size is associated with more MOEs; hence, that the results in Table 3 are

spurious, i.e. that the association between MOEs and corruption may in fact be driven by municipal size. However, as Model 4 tells us, the introduction of population size does not eradicate the association between MOEs and corruption – although it weakens somewhat. At the same time, there is also a significant association between population size and corruption. Ultimately, Model 4 suggests that the introduction of population size does not affect the association between MOEs and corruption levels.

Let us then move to Model 5, where all variables are included. Interestingly, for population size, educational levels, media coverage and female representation, no statistically significant associations are observed. And surprisingly – contrary to theoretical expectations – a prolonged stronghold over the mayor-position in a municipality by the one and same party tends to *lower* corruption levels.[7]

Finally, we conduct two robustness tests on the full model, excluding outliers in the dependent and the independent variable. In Model 6, we exclude the municipalities with the four most extreme values of the corruption index while including all control variables. The exclusion of these outliers leads to a drop in both coefficient value (from 0.014 to 0.008) and adjusted R-square (from 0.194 to 0.120). However, the effect of MOEs remains significant in Model 6.

In Model 7, we conduct a second robustness test by estimating a model with all control variables but excluding Stockholm and Gothenburg, which are outliers with regard to the number of MOEs. This exclusion only leads to a small drop in the coefficient value for the number of MOEs compared to Model 5, which included all observations. In addition, the number of MOEs is still significant telling us that the previous findings were not dependent on the influence of the large cities of Stockholm and Gothenburg. Although the adjusted R-square drops from 0.194 in Model 5 to 0.138 in Model 7 confirming that the two largest metropolitans account for a large share of the variation in the data and that their observations fit well with the predictions in Model 5.

As a final robustness check, we estimated Model 4-7 with MOEs per capita (defined as the number of MOEs per 10,000 inhabitants) as an independent variable. These models are included in the appendix and are in all relevant aspects similar to the findings in Table 4. More MOEs per capita are associated with higher corruption levels in all models, and these relationships are statistically significant at the 1 per cent level.

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[7] This is in line with findings reported by Bergh et al. (2017) as well as Rådenmark (2016).

TABLE 4, (WHAT EXPLAINS LOCAL GOVERNMENT CORRUPTION LEVELS?)

	Model 4 *With population*	**Model 5** *Full model*	**Model 6** *Full model without corruption outliers*	**Model 7** *Full model without MOE-outliers*
No. MOEs	0.013***	0.014***	0.008**	0.012**
	(0.004)	(0.004)	(0.004)	(0.005)
(ln) Population size	0.082***	0.051	0.062*	0.060
	(0.029)	(0.035)	(0.032)	(0.037)
Share with university educ.		0.069	-0.316	0.056
		(0.459)	(0.416)	(0.463)
Local editorial		-0.072	-0.058	-0.071
		(0.044)	(0.039)	(0.044)
Female rep. in council		-0.007	0.005	0.007
		(0.005)	(0.004)	(0.005)
Stronghold over power in council		-0.145***	-0.126***	-0.144***
		(0.048)	(0.043)	(0.048)
Intercept	0.784***	0.833***	0.883***	0.758**
	(0.268)	(0.357)	(0.323)	(0.366)
N	290	290	286	288
R^2 (adjusted)	0.167	0.194	0.120	0.138

*Unstandardized coefficients; standard deviations within parentheses. Significance: *p< 0.10 **p<0.05 ***p<0.01.*

In sum, what still stands the test – despite different model specifications and robustness checks – is the effect the number of MOEs has on corruption. Ultimately, then, the number of MOEs *do* seem to make some of the variation in corruption levels intelligible – a result which also was found in Dahlström and Sundell (2014). However, there is still much unexplained variation that calls for further research.

Conclusions

It is well-established that corruption has a wide range of societally undesirable consequences. It harms vertical as well as horizontal trust, hampers economic development, and is detrimental for the well-being of individuals from a whole range of aspects (cf. Holmberg et al. 2009). This is as true for developing as it is for developed countries. If the issue of corruption is taken seriously also in low-corruption settings such as Sweden, it is undeniably an important task to identify the causes of corruption in these contexts as well, not least to be able to nip irregular practices in the bud in countries that historically have been relatively spared from corruption. If not, as indicated by, for instance, Bardhan (1997), downward spirals can quickly be set off even in countries hailed as 'clean and honest'.

This paper has discussed the alleged risks of one aspect of 'quasi-privatization' which has followed in the wake of NPM: the increased use of MOEs in the provision of public services, a trend that has been observed across the globe. Publicly owned enterprises, like MOEs, have been singled out as a danger-zone for corruption by several scholars. Theoretically, there are at least four reasons to be wary towards MOEs.

- First, they have become increasingly used to provide public services in what has been highlighted as 'high-risk sectors': they are involved in zoning, construction projects, operate power and water distribution, as well as transportation. In addition, they are frequently employed in high economic output areas.
- Second, as argued by the World Bank (2014), OECD (2018) and UNDP, in situations where representatives of the 'owners' (in our case, the councillors) and the boards of MOEs overlap to a large extent, the risk of political interference is omnipresent and such overlaps may also constitute a short-circuit of the accountability chain. This, in turn, make MOEs susceptible to corruption.
- Third, scholars have associated MOEs with lower transparency and as 'hybrid organizations' they blur boundaries between the public and the private spheres, which tends to make rules and norms fuzzy for decision makers, ultimately hampering traditional accountability mechanisms (e.g. Grossi & Thomasson 2015).
- Fourth, and importantly, the boards of MOEs have been notorious for not including women, only having approximately 20–25 per cent female representatives present (Wide 2020). Since a consistent finding is an association between the share of females in elected

office and the level of corruption, the low share of women present in MOE boards is an obvious warning signal (e.g. Bauhr et al. 2018).

What we have aimed at doing here, is to engage with the literature that maintains that there may be detrimental and unintended side-effects of the 'quasi-privatization' associated with NPM and test the hypothesis if the number of MOEs is associated with more perceived corruption. Although the explained variance is not impressive, the hypothesis was confirmed despite the addition of several competing explanations into our models. The more MOEs a municipality operates, the risks for corruption tend to be alleviated.

All in all, we maintain that the paper constitutes a novel empirical contribution to the literature on the hypothesised unattractive side-effects of 'quasi-privatisations' and NPM; a tradition that to a large extent has either been purely theoretical, normatively argumentative or case-study oriented. Our study is cross-sectional, and hence, we cannot make claims to causality. That said, having being able to demonstrate that recurring and plausible theoretical arguments – and indeed political and practical worries – find support in a large-n study, lends credibility to the argument that the growing sector of 'hybrid organisations' operating in the intersection between the public and the private sphere seem to be associated with increased moral hazards and heightened corruption risks.

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APPENDIX

TABLE A1, (MOEs PER CAPITA AND LOCAL GOVERNMENT CORRUPTION LEVELS)

	Model 8 *With population*	**Model 9** *Full model*	**Model 10** *Full model without corr.-outliers*	**Model 11** *Full model without MOE-outliers*
MOEs per capita	0.031***	0.034***	0.028***	0.031***
	(0.012)	(0.012)	(0.010)	(0.011)
(ln) Population size	0.179***	0.155***	0.125***	0.137***
	(0.024)	(0.030)	(0.027)	(0.030)
Share with university educ.		0.039	-0.270	0.041
		(0.463)	(0.414)	(0.458)
Local editorial		-0.066	-0.053	-0.067
		(0.044)	(0.039)	(0.044)
Female rep in council		0.008*	0.006	0.008*
		(0.005)	(0.004)	(0.005)
Stronghold over power in council		-0.149***	-0.129***	-0.146***
		(0.049)	(0.043)	(0.048)
Intercept	-0.179	-0.242	0.191	-0.048
	(0.256)	(0.338)	(0.302)	(0.344)
N	290	290	286	288
R^2 (adjusted)	0.154	0.181	0.130	0.146

*MOEs per capita are defined as the number of majority owned enterprises per 10,000 inhabitants. Unstandardized coefficients; standard deviations within parentheses. Significance: *p< 0.10 **p<0.05 ***p<0.01.*